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Geographic Remoteness and Digital Divide in Schools: An Analysis Focused on South 24 Parganas, West Bengal

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Abstract

The goal of the Government of India's flagship initiative, Digital India, is to make India a knowledge economy and society enabled by technology. The school serves as the breeding ground for the next generation. Low digital skills and equipment continue to be a barrier to meaningful participation in a digital society. This practice must begin at the school level in order to promote digital literacy among the local population. It has been noted that several government efforts were unable to reach users because of their geographic distance, which led to negative attitudes towards new technologies. This study compares and maps the digital practices in the schools of the remote South 24 Parganas, which are adjacent to the Sundarban Delta.

Keywords: *Digital India, Geographic Remoteness, Digital Society, Digital Literacy, Digital Divide.*

1. Introduction

Digitalization is the mainstream for all services, businesses, and education; it is not a parallel mode. Since digital learning is the foundation for acquiring the knowledge and skills necessary for future career and financial success, it should begin at the school level. Despite the government's good efforts, India is experiencing a digital gap across all industries.

(Beniwal V)¹ The government must ensure that all Indians can benefit from the digital India initiative; otherwise, there is a serious risk that we will create a society that is discriminatory and has people without access to technology.

Hanna K, (2021)² claimed that the disparity between people and geographic areas with access

¹ Beniwal, V. (2020). *As digital divide widens, India risks losing a generation to pandemic disruption*. ThePrint. 17.12.20. <https://theprint.in/india/education/as-digital-divide-widens-india-risks-losing-a-generation-to-pandemic-disruption/568394/>

² Hanna K (2021). Digital Divide. Techtarget.com. 1-08-21.

to ICT and those without or with limited access is referred to as the "digital divide" in one sense. The telephone, television, personal computers, and internet connectivity are a few examples of this technology. The lack of digital technology and internet connectivity in underdeveloped nations is one aspect of the global digital divide. Lack of access to cutting-edge, high-quality new technologies, such as cell phones and Wi-Fi, could also be a problem.

Low digital skills and equipment continue to be a barrier to meaningful involvement in a digital society, according to the UNICEF 2020 UNICEF-ITU research. This practice must begin at the school level in order to expand throughout the digital literacy community. We run the risk of creating a digitally discriminatory society if the digital inequities are not reduced. The geographical remoteness of South 24 Parganas will be examined in this study paper along with its impact on secondary school education and digital practices.

1.2 The Statement of the Problem:

The Knowledge Gap Theory states that not everyone in society is equally able to absorb the growing amount of knowledge available to them; those with greater socioeconomic position typically possess superior information-gathering skills. As a result, there are two groups: those with higher education who are more knowledgeable about most topics, and those with lower education who are less knowledgeable. People with lower socioeconomic class (SES), which is partially determined by educational attainment, are generally unconcerned about their ignorance, have little to no understanding of public affairs issues,

<https://www.techtarget.com/whatis/definition/digital-divide>

and are not up to date on news events and significant new discoveries.

Both those with and without digital empowerment may experience the same thing. Sunetra Sen Narayan addressed the following concerns in her book *India Connected: Mapping the Impact of New Media: Who Is Left Out of the New Media Equation?*

UNICEF 2020³ Low levels of digital proficiency and equipment continue to be a barrier to meaningful engagement in a digital society, according to a UNICEF-ITU report. While the issue of digital inadequacy is not unique, it is particularly severe in countries like India, where over half of the 1.3 billion people living there are under 25. Digital practices in schools are crucial to halting this social inequity. Our next generation will be better prepared for a robust digital society if schools adopt digital practices. The focus of this study article is West Bengal. The South 24 Parganas of West Bengal have been chosen by the researcher as the subject of its investigation.

1.3 Objectives

The goal of this research paper is to identify the tools to reduce the likelihood of a digitally discriminated society. For many young minds, technological innovation or digital empowerment is the source of hope and security, allowing them to continue their education and seek help if they are at risk of child labour. This paper is focusing on geographic remoteness and digital divide in school education.

³ UNICEF(2020).Two thirds of the world's school-age children have no internet access at home, new UNICEF-ITU report says. 30-11-2020

www.unicef.org/press-releases/two-thirds-worlds-school-age-children-have-no-internet-access-home-new-unicef-itu

- a) Use of Banglar Sikhkha Portal (BSP) during pandemic
- b) Present use of Banglar Sikhkha Portal (BSP)
- c) Future of Taruner Swapna (TS) Project of West Bengal government

2. Literature Review

According to *Locked out: Emergency report on School Education (2021)*⁴ in 2021 nearly 1,400 school children in underprivileged households brings out the catastrophic consequences of prolonged school closure in the last year and a half. In rural areas only 8% of sample children are studying online regularly, 37% are not studying at all, and about half are unable to read more than a few words.

According to *Banerjee R*⁵ As the pandemic affected livelihoods, particularly for low-income casual and migratory workers, there was also concern that family budgets would be strained, which would result in a rise in dropout rates, particularly among older children and girls, according to the Annual Status of Education Report (Rural) 2021.

*ASER 2022*⁶ Classroom transformation has been aided by the paradigm shift in education from

allowing online learning to hybrid learning and then fully integrating technology into the classroom. These digital techniques can greatly satisfy rural areas. In addition to helping teachers in remote areas use technology to enhance their abilities and hasten the nation's adoption of digital teaching methods, it also helps overcome the problem of a teacher shortage.

Following the epidemic, West Bengal's government school enrolment remained relatively stable, according to the ASER 2022 assessment. After the pandemic, even female students returned to school, but surprise, their presence in the classroom is lacking. The ratio of students enrolled to students present is higher in South India. 32.4% of pupils in the primary section struggle to perform basic subtraction problems. 32.6% of students can read the textbook from the prior class without any problems.

(Khan A, 2024)⁷ One important question, however, is whether West Bengal's government education system is prepared for the entire digitalization process. According to the education department's calculations, 1500 crore was spent in 2024 to provide tablets to class 11 students because, as reality shows, most schools lack adequate classrooms. In contrast, only 2 lakhs of rupees can be used to create 74 thousand smart classrooms throughout the state, and only 4 crore 73 lakh can be used to improve the quality of West Bengal's midday meals.

[ort%20pdfs/State%20pages/6%20paggers_English/west_bengal_28.pdf](https://img.asercentre.org/docs/aser2021finalreport_16.116.54pm1.pdf)

⁴ *Locked out: Emergency report on school education.* (2021). People's Archive of Rural India. (8.8.21) <https://ruralindiaonline.org/en/library/resource/locked-out-emergency-report-on-school-education/>

⁵ Annual status of Educational Report(Rural)2021.(2021) *Locked out: Emergency report on school education.* (n.d.). People's Archive of Rural India. 17.11.2021 https://img.asercentre.org/docs/aser2021finalreport_16.116.54pm1.pdf

⁶ Aser. (2022). <https://img.asercentre.org/docs/ASER%202022%20rep>

⁷ Khan A(2024).১৫০০ কোটির ট্যাব, ছাদই ভাঙা বহু স্কুলে. *Anandabazar Patrika*. P-1.17-07-2024.

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Picture 1 Banglar Shiksha Portal. Official website of the School Education Department of West

In (Picture 1) Banglar Shiksha Portal-banglarshiksha.gov.in (It is the official website of the School Education Department of West Bengal, offering various services and resources for schools, students, teachers and parents) 3 division are very applicable for digital practices in school level. These are Digital Content, E-learning and Online Classroom.

To reduce the learning gap amongst the students, West Bengal government's education department gave the activity task to the students. How the teacher will activate the model activity task even for Madhyamik (Class X, Board Examination) aspirants, those pre-recorded videos are also uploaded in the portal.

In this section near about 450 videos have been uploaded on various subjects of different classes. Where teachers explained the topics with proper board work or with basic graphical presentations. All the videos are pre-recorded.

Here once again we can recall the *India TV News Desk*, (2021)⁸ In light of the COVID pandemic, the Supreme Court's ruling on the digital divide has had "stark consequences" since it effectively denied children in the economically disadvantaged group (DG) and economically weaker section (EWS) the right to an education because their families were unable to pay for computer-based equipment and internet access for online courses. According to the court, a child's right to an education today depends on who can buy a device for online learning and who can't. According to the ruling, children whose parents cannot afford devices with the best internet packages at home for online education have stopped attending school and may even be at risk

⁸ India today web desk.(2021). Help EWS category kids overcome 'stark consequences' of digital divide: SC. 8-10-21.

www.indiatvnews.com/education/news-help-ews-category-kids-overcome-stark-consequences-of-digital-divide-sc-739237

of being enticed into child labor or, worse, child trafficking, according to the Bench.

2.1. Research Gap

This literature review enables the researchers that, distribution of cheap devices and data is leading India to digital inclusion but digital empowerment is the aspiration that India should work towards. School is the incubator of the making of good and well-equipped citizens. The researcher expects by the proper digital practices at school, students can aware of the external world and can compete with the modern economy.

2.1.A The digital practices in schools in distant areas of South 24 Parganas (excluding the Sundarban delta) have not been mapped by any survey or study.

2.1.B Previous Studies do not take into account the implications and usage of the Banglar Sikhkha portal.

2.1.C No survey or study has examined the implications of the West Bengal government's project to provide free digital infrastructure, Taruner Swapna, on digital education.

3. Research Design

3.1 Area of Study:

South 24 Parganas is a district of west Bengal which consists of Metropolitan Kolkata to the remote riverain village up to Bay of Bengal. 84% of the population lives in rural area and where the development is taken care by panchayets and rest by the Kolkata Municipality corporation. In this district of Bengal more than 37% of the population from Below poverty line. South 24 pargana is the largest district of West Bengal mainly and second largest by population.

The Researcher had divided the district into three zones. In zone I, semi urban area, Zone II includes mainly the schools from the rural area and Zone

III is coastal belt. Semi urban means, it is adjacent to Kolkata, But in the Zone III, mostly the coastal areas are included where only government schools are available.

Zone I: Semi Urban

a) *Nayabad High school(HS)* is at Sonarpur block of South 24 Pargana. Here researches had taken 100 students. This school is under West Bengal Secondary Education (WBSE).

Zone II: Rural

a) Dakshin Barasat Sibdas Acharya High School is under West Bengal Secondary Education (WBSE) is situated at Jaynagar, South 24 Parganas. Researcher had taken responses from 100 students.

b) H.H.D High School is under Police station Ridighi. It is under West Bengal Secondary Education (WBSE). The Researcher had taken responses from 100 students.

c) Srichanda MNV Institution (H.S) is located at Srichanda Village. This school is under West Bengal Secondary Education(WBSE). The Researcher had taken responses from 50 students.

Zone III: Coastal

a) Maipith costal is under Kultali, South 24 pargana. *Bhubanesweri Joy Krishna High School (HS)* is at Bhubanesweri Bazar under Maipith costal Police Station , South 24 Pargana. Researcher had taken 75 students' response.

b) Panchuakhali is a coastal area near Piyali river under Tangrabichi Post office, kultali Police Station, South 24 Pargana. Researcher had taken 105 students. This school is under West Bengal Secondary Education(WBSE)

3.2 Method of Data Collection

Researcher, prepared one questionnaire for Government school students. Questionnaires are consisting of open and close ended questions in a manner of 60:40. Questionnaires were printed and distributed in a hard copy amongst the students. In this research paper, sample size is 526 students. All the data were collected from 6 Government located in rural, coastal and semi urban area of South 24 Parganas. As the Paper is on the observation about the government schools. Students are from Class 8, 9, 10. Primary Data were collected in between January and February, 2024 from 6 government schools across South 24 Parganas.

3.3 Population and Sample Size

As per west Government's official version in south 24 pargana there are 1081 government schools, around 5 lakh government school students. As the population size is very big, in this paper sample size is the fraction of whole population.

3.4 Sampling Technique

The researcher had selected the convenience methodology under non probability sampling. Ahuja, 2001⁹ Under the non-probability sampling researcher had selected snowball or network sampling. In this technique, the research begins the research with the few respondents who are known and available to her.

3.5 Design of Research

Here the researcher has designed the paper under mixed method when quantitative and qualitative data, together provide a better understanding which reflects the practicality and multiple viewpoints. In this thesis researcher distributed

the questionnaire and follow up focus group. Here the researcher collected both qualitative and qualitative data. The sequence of the data is researcher collect both quantitative data at the same time collect the qualitative data. In this convergent Parallel Design, both data are related after that interpretation came.

3.6 Statistical tools used for Data Analysis

In this paper researcher used Statistical Package for Social Sciences or SPSS. In SPSS used the cross tabulation. It is a useful analytical tool which is commonly used to compare the results, to one or more variables with the result of another variables.

The students provided this reaction. The Banglar Sikkha Portal's use is the dependent variable in this case, while the school area is the independent variable. According to the results of the cross-tabulation study, 173 pupils from government schools in the coastal region reported that their experience using the Banglar Sikkha Portal was poor, 93 from rural areas felt the same, and just 98 from semi-urban areas claimed it was good.

Students from Government School provided this response. The Banglar Sikkha Portal's current usage is the dependent variable in this case, while the school area is the independent variable. According to the cross-tabulation study, all students in the coastal area reported very poor BSP use, whereas 72.2% of students in the rural area reported poor BSP use, with over 25% stating worse. All students in semi-urban areas agreed it was nice.

⁹ Ahuja R,(2001), Research Methods. P 181, Rawat Publication

4. Data Collection and Data Analysis

4.1 Banglar Sikhkha Portal use in pandemic

Count		Use of BSP in Pandemic					Total
			Good	Moderate	Poor	Worst	
School area		124	0	0	0	0	124
	Coastal	0	0	0	173	0	173
	Rural	0	1	7	93	154	255
	Semi Urban	0	98	0	0	0	98
Total		124	99	7	266	154	650

Table 4.1 Banglar Sikhkha Portal use in pandemic - Students' Reaction

4.2 Present use of Banglar Sikhkha Portal (Only Government School)

		Present use of Banglar Sikhkha Portal					Total
			Good	Moderate	Poor	Worst	
	Count	124	0	0	0	0	124
	% within School area	100.0%	.0%	.0%	.0%	.0%	100.0%
	Coastal						
	Count	0	0	0	173	0	173
	% within School area	.0%	.0%	.0%	100.0%	.0%	100.0%
	Rural						
	Count	0	1	6	184	64	255
	% within School area	.0%	.4%	2.4%	72.2%	25.1%	100.0%
	Semi Urban						
	Count	0	98	0	0	0	98
% within School area	.0%	100.0%	.0%	.0%	.0%	100.0%	
Total	Count	124	99	6	357	64	650
	% within School area	19.1%	15.2%	.9%	54.9%	9.8%	100.0%

Table 4.2 Present use of Banglar Sikhkha Portal - Students' Reaction

		Future of Taruner Swapna (TS) Project										Total
			Do not Want as it is not good for us	Good For Class IX Students	It is not good	It is not good as students will more addicted	NA	No	Yes, It should start	Yes, It help us to know many things including Engl.	Yes, help us to know many things	
School area	Count	124	0	0	0	0	0	0	0	0	0	124
	% within School area	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
	Coastal Count	1	61	19	0	0	27	65	0	0	0	173
	% within School area	.6%	35.3%	11.0%	.0%	.0%	15.6%	37.6%	.0%	.0%	.0%	100.0%
Rural	Count	0	70	0	103	22	1	0	28	2	18	255
	% within School area	.0%	27.5%	.0%	40.4%	8.6%	.4%	.0%	11.0%	.8%	7.1%	100.0%
Semi Urban	Count	0	0	0	0	98	0	0	0	0	0	98
	% within School area	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
Total	Count	125	131	19	103	120	28	65	28	2	18	650
	% within School area	19.2%	20.2%	2.9%	15.8%	18.5%	4.3%	10.0%	4.3%	.3%	2.8%	100.0%

Table 4.3 Future of Taruner Swapna (TS) Project-Students' Reaction

4.3 Future of Taruner Swapna (TS) Project of West Bengal government

Students from government schools, provided this response. In this case, Taruner Swapna's future is a dependent variable, whereas the type of school is an independent variable. Here, the rating graph displays the unfavorable opinions that students from different regions have expressed regarding this project. The negative comments mapped from this data include: Do not want since it is bad for us, health risks, and mental damage. Students from the coastal belt, who suffer from the digital divide, are more critical of this program. Surprisingly, pupils in semi-urban areas also have negative opinions about this plan. They talked about the disturbances in their minds. Researchers only received conflicting responses from rural areas.

5. Research Findings-observation and Conclusion

Based on the data analysis of this research paper it is suggested to boost up the digitisation in secondary school to scale down the socially discriminated society.

5.1. Findings

5.1.A Gap between government initiatives and its practical implications: The distance between government objectives and real-world applications is enormous. Even though the Banglar Sikhkha portal offers a wealth of online videos and e-study resources, students from remote areas, mostly from coastal belt are unable to use it. All efforts lost their purpose since stakeholders at remote area were not benefiting from them. Due to technological issues and a lack of digital infrastructure, the majority of students in government schools from coastal belt are unable to utilize the Banglar Sikhkha portal.

5.1.B Location wise digital gap: The results show, the situation is even worse along the coastal belt. The West Bengal government's digitalization efforts are literally having no positive impact on the instructors and pupils in government schools in the coastal belt.

5.1.C. A Under privileged and negativity: The West Bengal government's Taruner Swapna initiative is a very successful and well-liked way to advance digital practices at the school level. Surprisingly, however, the majority of government school pupils had unfavorable things to say about this endeavor. Smart devices are bad for your health; they can destroy your mind, among other things. According to the data, those who are less fortunate and do not gain from digitization are more unfriendly, uninformed, and hesitant when it comes to digital practices. Furthermore, a lot of students point out that even while online learning is simpler to understand, it cannot replace traditional classroom instruction.

5.2 Limitations

5.2.1 Given that South 24 Parganas is West Bengal's second most populous district, the population should grow from 525 to at least 1000 people. Researchers compared the study between two large private schools and six government schools out of the total number of schools.

5.2.2 To map the Digital Disparity and Social Discrimination more specific words and indicators can be used.

5.2.3 This study does not address the gender-based digital divide. The relationship between gender discrimination and digital education is completely and purposefully left out.

5.3 Conclusion

To overcome the geographical distance in terms of digital practice in education, policymakers should have a well-coordinated plan. It has been

noted that some good initiatives in our nation have failed as a result of poorly executed implementations. A positive attitude is necessary if we are to improve our educational system to the level of the rest of the world. These assurances and messages should be communicated from the highest level of the system; digital education poses no threats to any community. In the near future, India will become a digitally segregated society where young and promising minds would live in a suffocating environment if we delay the digital practice with hesitation and animosity

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